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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,444	12/21/2001	Anthony Michael Baca	SAL-1001	5038

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EXAMINER

HOEY, BETSEY MORRISON

ART UNIT	PAPER NUMBER
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1724

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DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/029,444

Applicant(s)

BACA, ANTHONY MICHAEL

Examiner

HOEY, BETSEY

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-20 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 7) ☒ Claim(s) 6 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Lemelson, U.S. Patent No. 5,480,562 (abstract; column 1; column 2, lines 15-20).

Lemelson teaches a method of purifying water comprising passing the water through a conduit and generating a laser beam through the conduit as water passes. The laser radiation is operable to kill organisms present in the water and purify the water. The water may be used for drinking or bathing purposes, and thus it is apparent that the water is provided from the treatment conduit to a point of use.

3. Claims 1, 4, 7, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Safta, U.S. Patent No. 5,376,281 (abstract; figures; column 6, lines 51-60). Safta teaches a method and system for treating water comprising passing the water through an irradiation stage and irradiating the water with a laser light whereby microbes in the water are killed. The laser irradiation stage is shown to be located by a means for bottling the purified water, and thus the irradiation stage is located near the point of use. The laser irradiation stage is shown to have input and output lines or tubing.

4. Claims 1, 4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Goudy, Jr., U.S. Patent No. 4,661,264 (abstract; figures). Goudy, Jr. teaches a method and apparatus for disinfecting water by passing a stream of the water through a laser

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beam. The figures show that water enters a treatment area by an inlet pipe or tubing, converges with laser radiation in the ultraviolet range, and exits by an outlet pipe or tubing.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 8 and 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Korin, U.S. Patent No. 6,464,868 (abstract; Figure 6; column 6, line 65-column 7, line 2) in view of Goudy, Jr. (see above). Korin discloses a method and system for treating water comprising disinfecting water from an inlet source by ultraviolet light irradiation in a disinfecter, and passing the water to an outlet where it is passed to dental equipment. The ultraviolet light kills microorganisms in the water.

The claims differ from Korin by reciting that the light used is from a laser (claims 1 and 10); that the point of use is specifically after a port at the end of a dental handpiece (claim 2), at the head of a dental handpiece (claim 3), or after the head of a dental handpiece (claim 5); that the treatment area is within a dental handpiece (claim 8), or near a distal end of a dental handpiece (claim 12); or that a head is removably connectable to the handpiece at the exit of the treatment area and provides water to the point of use (claim 13).

Goudy, Jr. discloses the method and apparatus described above, wherein water is disinfected by ultraviolet light irradiation provided by a laser. Goudy, Jr. discloses that

the use of a laser provides a superior source of intense ultraviolet radiation for the killing of bacteria. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have modified the method of Korin by providing the ultraviolet radiation with the use of a laser, in view of Goudy, Jr., in order to provide a superior source of intense ultraviolet radiation for disinfection of the water. It is submitted that while Korin does not provide specific examples of "dental equipment" that is provided with his disinfected water, one of ordinary skill in the art would have been expected to apply the method of Korin to any location at or near any dental device where it would be advantageous to disinfect water. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have provided treatment and/or point of use of water treated by the method of Korin, at any of the locations recited in instant claims 2, 3, 5, 8, 12 and 13.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson, Safta, or Goudy, Jr. in view of Tribelski, U.S. Patent No. 6,468,433 (abstract; columns 1-8). Lemelson, Safta, and Goudy, Jr. all disclose methods for disinfecting water using irradiation by laser light. The claims differ from Lemelson, Safta, and Goudy, Jr. by reciting that the light is provided via an optical fiber coupled to a laser.

Tribelski discloses a method for disinfecting liquids, such as water, by using optical fibers for delivery of laser irradiation to the liquids. The radiated light may be in the ultraviolet range, which is useful for killing bacteria and other microorganisms. Tribelski discloses that the use of optical fibers for delivering laser irradiation to liquids for treatment is advantageous for numerous reasons, including enhanced disinfection of

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the liquids. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have provided the laser light irradiation of Lemelson, Safta, or Goudy, Jr. by means of optical fibers, in view of Tribelski, in order to enhance disinfection of the water being treated.

8. Claims 17-20 are allowed.

9. Claims 6 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Claim 6 would be allowable if rewritten in independent form including all of the limitations of claims 1 and 2, because the prior art of record fails to teach, disclose, or fairly suggest a water treatment method comprising receiving water into a treatment area, introducing light into the area from a laser as water passes therethrough, providing the water to a point of use after a port formed in a head located at the end of a dental handpiece, wherein the laser beam is controlled by a switching mechanism located in the dental handpiece.

Claims 14-16 would be allowable if rewritten in independent form including all of the limitations of claims 10, 12 and 13, because the prior art of record fails to teach, disclose, or fairly suggest a water treatment system comprising a treatment area located near a distal end of a dental handpiece, a laser light source coupled to the treatment area, a head removably connected to the dental handpiece at the exit point of the

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treatment area for providing water to a point of use, and a beam directing mechanism for directing light between a light exit port and the treatment area, whereby laser light can be directed into the area within a patient's mouth.

Claims 17-20 are allowed because the prior art of record fails to teach, disclose, or fairly suggest a dental handpiece including a water line for providing water to a treatment area from a port formed in a head associated with the handpiece, wherein the handpiece comprises a laser light source integrated within a housing of the handpiece and providing light to the water treatment area, wherein the water treatment area is located near the head of the handpiece and has an entry point for water and an exit point for allowing water to pass from the treatment area toward a point of use through the head.

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsey Hoey whose telephone number is (703) 305-3934. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6:00 PM, and on alternate Fridays from 8:30 AM to 5:00 PM.

The fax phone number for official after final faxes for this Group is 703-872-9311 for all other official faxes the number is 703-872-9310, and for unofficial faxes the number is (703) 305-7115. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

*Betsey M. Hoey*  
**BETSEY MORRISON HOEY**  
**PRIMARY EXAMINER**

May 28, 2003